THE VETERINARY RECORD

A Weekly Journal for the Profession.

Edited by William Hunting, F.R.C.V.S.

No. 680. JULY 20, 1901. Vol. XIV.

Concerning Veterinary Surgeons.

On June 18th Mr. Hanbury, speaking to a deputation from the Central Chamber of Agriculture, said:—

"Now with regard to the veterinary surgeons, I am not myself thoroughly convinced that even with the great learning of the veterinary profession—and they are men of very great skill, but they are like everybody else, and however learned a man may be, whether he is a bishop or a lawyer or anybody else, he is not infallible, he does not know everything—I am by no means satisfied that even amongst the very highest authorities we really have yet got to a thorough knowledge of this disease, and I do propose to have inquiries made which I hope at any rate will lead us to a greater knowledge of this disease than exists at the present moment. We have seven hundred veterinary surgeons whom we call upon at one place or another to diagnose this disease, and I am bound to say that generally those men do their work very well; but it is almost impossible that amongst such a large number of men there should not often be cases where the diagnosis of the disease is not accurate, and where you might get a better diagnosis of the disease from men who perhaps have a larger and wider experience of it."

On July 17th Mr. Hanbury, in the House of Commons, defending a vote for the salaries and expenses of the Board of Agriculture, said:—

"When he came into office he found that the policy of isolation for swine fever had taken the place of the old policy of slaughter. Up to the present he had seen nothing to alter his view that, in the existing state of the law, isolation was the wisest policy that could be adopted. It must not be said that that policy had been adopted simply from a desire for economy. The expenditure was not Imperial, and the saving of £140,000 had been the gain of local taxation. If the policy of isolation did not control the disease—he could hardly hope that it would be stamped out—he should admit that it ought to be dropped. But what were the dangers connected with wholesale slaughter? The law at present was in a most ridiculous state. The *minimum* compensation which by law they could offer when swine were slaughtered was probably a larger price than the owner would get if the animals were slaughtered in the ordinary way. This had the natural result of encouraging the spread of the disease. It tended to make the pig dealer, who was most to blame in this matter, careless. He was certain from past experience that slaughter, so far from limiting the disease, had gone a long way to encourage it. In those years where there had been a large amount of slaughter there had been a greater recrudescence of the disease in the following years. He had also been struck by the almost complete ignorance shown by the veterinary profession of this disease of swine fever. In 1895 an expert inquiry was held which convinced the veterinary profession that all the symptoms which they had supposed to be symptoms of the disease were not the symptoms at all, and what was supposed to be their knowledge of the disease was proved to be based upon a false basis altogether. At the present time the position of the veterinary profession with regard to this disease was that in a great number of cases it was practically impossible for any one to know what were the symptoms of swine fever. It was possible for an animal to go about for four or five months and thrive and yet have the disease heavily upon it. This fact made it very difficult indeed to deal with a disease of this kind. While they had been able to stamp out pleuro-pneumonia and foot-and-mouth disease, swine fever was much more difficult to deal with, not only on account of there being no symptoms to disclose, but the bacillus of the disease lingered for a longer time outside the animal than in any of the other diseases he had named. It lingered for months in the pig-sties after the animals had been slaughtered.

He had also been struck by the ignorance of the purely local veterinary surgeons who were often called in when the disease had to be dealt with. He proposed no longer to trust to the local veterinary surgeon, the small man who might be under the influence of the farmer or pig-dealer. He wanted to select two or three of the very best veterinary surgeons in every county to whom these cases would be referred. Their veterinary staff ought also to be increased. He proposed to double the veterinary staff in the number of travelling veterinary inspectors."

Who coaches Mr. Hanbury? And what can have induced him to so alter his opinion?

The *Gazéta de Med. Zoöl.* for May 1st is mostly occupied by articles bearing on the entrance examination for the Spanish Veterinary Colleges, the Editor deplores the fact that the profession has no examination of its own, but has to accept those of other bodies. The Council have decided that a bachelor degree from a Spanish university shall be the lowest standard and must be insisted upon (this is about equivalent to the present British standard). Also microbiology and analysis of foodstuffs are added to the professional course.

A new Free Hospital is about to be erected in connection with the Madrid College. It is to be built in isolated blocks in a common enclosure, in one block will be the dwellings for the staff and servants, also a pathological laboratory and museum for the use of practitioners. Two blocks will be devoted to bovine patients suffering from non-infectious diseases, each holding twenty patients. One block for bovine patients suffering from contagious diseases. One block will be set aside for the special clinical study of tuberculosis. Other blocks for twenty patients will be used for horses, mules, and asses; in every block there will be an attendant's lodge. Paddocks will be provided for exercise, and enclosures for sheep, swine, and poultry (no dog ward). One block will be devoted to the forge and forage department, also containing disinfecting chambers and house for ambulance waggon and gear (no operating room). Post-mortem room with crematorium attached.

RUPTURE OF RECTUM.

On April 25th a client came to ask if I would go to see his mare which he said had been served two days previously and was now off her food and in a bad way, he was afraid that she had been injured.

On arriving found a cart mare looking very dull. Temp. 103, pulse 60.

On examination per vaginam I found nothing abnormal, but per rectum found a longitudinal split in the viscus about three inches long, some nine inches or so from the anus on the superior surface. This split opened into a cavity about the size of a tennis ball, which was packed with dung.

Treatment consisted of washing out the cavity by aid of a enema pump with antiseptics and packing it with carbolised tow impregnated with sometimes boracic acid and iodoform, occasionally with a stimulating liniment

A dose of linseed oil was given at commencement and the mare fed chiefly on bran mashes. For several days she ate very little and was constantly lying, she got tucked up, skin tight, and one or two sores with lying.

The wound took on a nasty sour stinking condition, and bye and bye pieces of the connective tissue began to slough, it appeared as if the discharges from the wound were burrowing, but gradually interstitial tissue made its appearance and filled up the cavity so that the tow could not be kept in the wound nor dung get into it. The wound got into a healthy state with the growth of the tissue.

The mare was sent home on the 27th of May (we had her in the infirmary for treatment). She was seen again on June 3, the wound was found to have almost healed and to be healthy, and she has kept right ever since.

I was assured by the owner that the mare was properly served. he witnessed the act. I think therefore that this case helps to bear witness that rupture of the rectum may take place although the service is properly carried out.

I have been turning over the pages of *The Veterinary Record* for Nov. 1892, and came across your editorial on the above subject. I therefore send you this for publication if you think fit, in the hope that more information may be forthcoming on the subject.

E. H. Pratt.

Northallerton, July 13.

ABSTRACTS FROM FOREIGN JOURNALS.

Stricture of the Rectum in consequence of a Parametral Infiltration arising through Covering.--M. G. de Bruin.

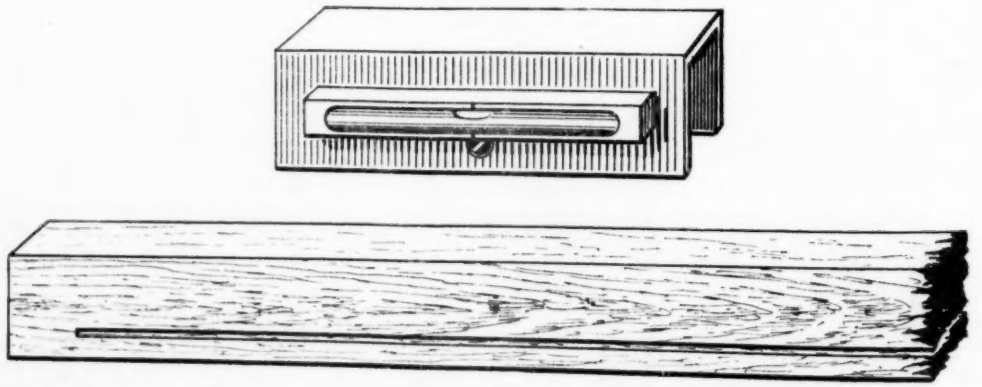
In July, 1900, a mare was brought for examination suffering from stricture of the rectum.

The history was that the mare had been covered on the 26th June and immediately thereafter a considerable bleeding had occurred from the vagina, which had ceased in about an hour, The veterinary surgeon who had examined the patient on the same day noticed slight colicky pains, a frequent pulse, diminished appetite, and normal temperature, and a rent in the vagina at the top of the portio vaginalis uteri. The succeeding days, small, slime-covered fæces balls were evacuated, the temperature remained high for a few days, whilst the appetite improved. Gradually the wound got smaller till one could only get one finger into it. Thereupon colicky appearances arose caused by an accumulation of fæces which lay in front of a narrowed portion of the rectum above the cervix uteri. The mare had become thinner and defæcation had become difficult. This was the state of things when the animal was brought to me for examination.

Status præsens. The mare was in average condition; from the vagina a muco-purulent secretion was discharged, with violent straining three small fæces balls were passed; patient groaned during the act. (*Continued on page 32*)

A QUICK METHOD OF MEASURING HORSES.

By Stewart Stockman, M.R.C.V.S.



The drawing shows a rigid piece of seasoned wood the full length of which is 3ft. 6in., made with its edges exactly parallel and its surfaces flat. A narrow slit which does not run the whole length traverses the thickness of the stick. On the upper side slides a brass carrier for a spirit level. The carrier is made so that it will lie quite flat on the upper surface of the stick and slide easily along. The two flanges of the carrier do not extend to the lower edge, and they are connected by a strong pin which moves along the slit. The pin is simply to fix the carrier to the stick.

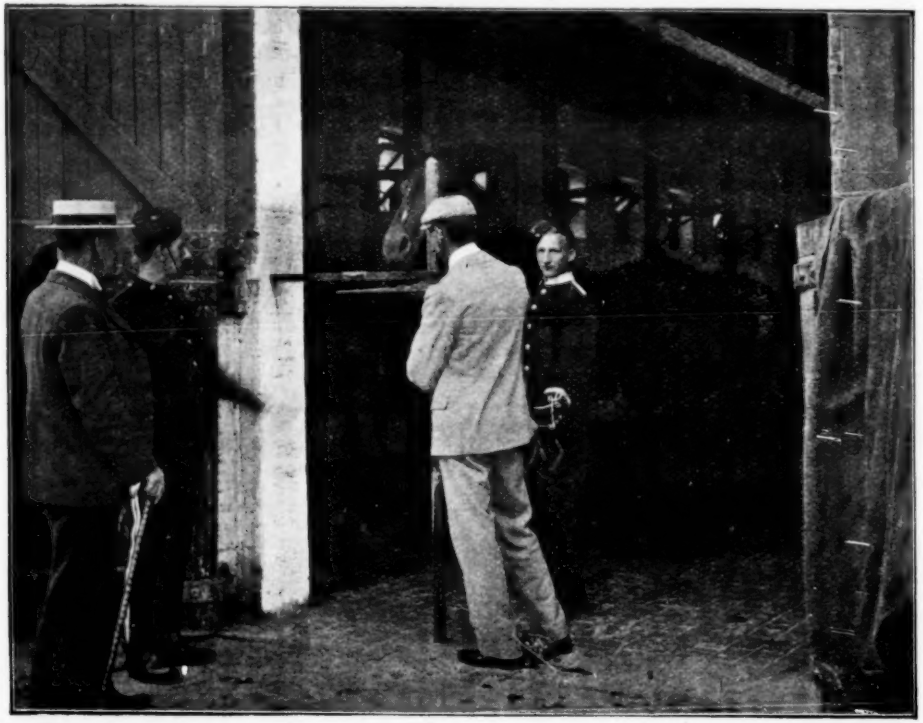


Fig. 2

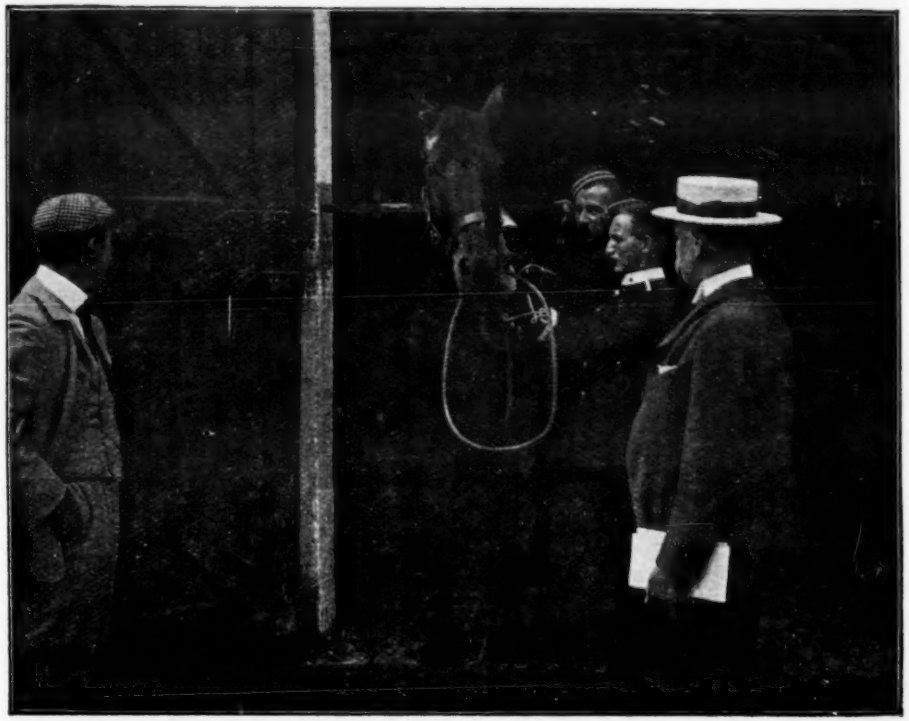


Fig. 3

In a large establishment where many horses have to be measured every day the cross bar of the ordinary measuring stick is apt to work loose where it slides on the upright. When this happens endless trouble arises and the measurements given by the instrument are very inaccurate. To get over these difficulties and to lessen the time occupied in measuring I have had made the simple stick which is here described and illustrated. So far as I am aware the stick has never been described before.

The scale for measuring is marked on the right hand side of the uprights of a stable door (Figs. 2 and 3), or it may be marked on an upright bar of wood. Any door where the entrance is flush and the pavement reasonably level will do. The scale on the wall should, of course, be marked from the level of the place where the horse stands to be measured. Figure 2 illustrates how the first level, say 13 hands, can be obtained with an ordinary measuring standard fitted with a level, but of course there are other ways. A straight line is drawn across the pillar of the door where the horizontal line from the upright cuts it. Once this line is obtained, other heights can be marked off with a tape line, and it is as well to mark the inches, half inches, etc., in different colours. Figure 3 illustrates a horse being measured.

By having the stick 3 ft. 6 in. in length and a sliding spirit level one can still measure the animal although he be some distance from the scale.

Very few horses give trouble when being measured in this way. The method gives very accurate results if properly carried out, but of course the scale on the wall must be fixed with the greatest care. Twenty four horses brought up in line were measured in ten minutes, although no special effort was being made to work against time. The stick, level, and fittings can be made at a cost of about six shillings.

Examination per vaginam showed three centimetres over the portio vaginalis uteri (10 o'clock *) a 3 cm. broad slit-like wound into which one joint of the forefinger could be pressed. The wound went deeper but the canal was narrower. The direction was toward the excavatio recto vaginalis. After the vagina had been stretched with Polansky's speculum and lighted up, the slit-like opening of the fistulous canal was plainly visible and a sound could be passed into it. It was thus established that the canal was 8 cm. deep and ran into the excavatio. Thewalls of the canal were callous.

On rectal exploration about 26 cm. from the anus the rectum was considerably narrowed and the narrowed portion was 5 cm. long from before backwards. In front of the narrowed portion the rectum expanded and therein there was an accumulation of fæces. During peristalsis and under pressure the lumen of the narrowed portion was 6 to 7 cm. The upper wall of the rectum showed nothing abnormal. At the narrowing the inferior wall of the rectum felt very hard; in short there was an infiltration of the excavatio recto-vaginalis in which the upper wall of the vagina and the inferior wall of the rectum were implicated. The whole infiltration constituted a firm swelling with a diameter of 10 cm. Pressure thereon from the rectum caused the animal to evince pain; pus was discharged from the fistulous opening in the vagina. Although by examination the circumference of this parametral infiltration could not be established with certainty, yet treatment must be directed towards bringing about its resorption in the hope that by so doing the stricture of the rectum should be lessened. And danger especially threatened from this last complication. If the rectum was not regularly emptied twice daily or the scanty fæces got rid of colicky symptoms arose.

Treatment. Massage of the infiltration with the hand in the rectum I considered of little value. The dangers which this therapy often brings with it make it of little value. I therefore resolved to try and remove the infiltration by electrolysis after the opening of the fistulous canal into the vagina had been widened.

1.—A bougie made of cacao butter and mercur. præcip. rubr. 2·5 cm. long and 1·5 cm. broad was placed in the canal of the fistula. This bougie was pushed as far as possible into the canal with the finger. On the third day the bougie came out in small pieces. The object of this treatment was to eat away the walls of the canal and assist the discharge of the secretion therefrom.

2.—The rectum was emptied once daily and a great quantity of a one per cent. solution of common salt infused into that organ.

3.—One electrode of a galvanic battery was placed in the rectum at the situation of the infiltration and the other electrode per vaginam in the canal of the fistula. The electrodes consisted of bent copper wire. The stream was continued for quarter of an hour. After a few days the induction stream was used; this treatment was continued 10 days.

The result of the treatment was very beneficial. After eight days the fistulous canal had almost closed and the stricture of the rectum was so much remedied that defecation was accomplished without pain and the accumulation of fæces in front of the stricture occurred no more. The infiltration had decreased at its circumference. After 15 days the infiltration had disappeared and the stricture of the rectum was quite overcome. Up to now (July 11, 1901) the mare has remained thoroughly healthy.—Ex. *Berliner Thierärzt Woch.*

The marking of the place where the fistulous opening existed "10 o'clock" was borrowed by me from a communication of Dr. Stoyanov's in *La Presse Medicale*. It denotes with a few words and without using the periphrastic conjugation the exact situation of wounds or fistulas near openings. Stoyanov has noticed that this plan is used in St. Mark's Hospital in London principally in diseases of the rectum and anus. He saw many fistulas operated on there and was at first struck with amazement every time he heard a fistula spoken of as an 8 or 12 o'clock fistula. The explanation is very simple. One by this method describes the situation of this affection forming a circle round the anus as a centrum and dividing it into portions similar to those in a clock face.

Stoyanov describes this plan as "poetic and ingenious" and has further extended it to ophthalmology in order to denote the situation of a corneal ulcer. For rents in the cervix and vagina this plan is useful.

Extract from a Report on Foot-and-Mouth Disease in Germany in the Year 1899.

Foot-and-mouth disease has been introduced into Germany during 1899 from several foreign countries. The active trade with neighbouring Russian townships has caused different outbreaks of the disease in the districts of Lyck and Johannisberg (East Prussia). Contact with pastured beasts on the Russian boundary caused an outbreak of the disease in the Strasburg district (West Prussia), the use of Russian fodder in the district of Stuhm and the transport of Russian geese in the districts of Braunsberg, Heiligenbeil, Heilsberg, Pro-Holland, and Augerburg caused outbreaks of the disease. From Austria the disease was introduced several times into Bavaria, Saxony, and once into the abattoir at Metz. The disease was introduced from Switzerland into several of the Baden townships, from Holland by persons returning to the districts of Rees and Borthen from Luxemburg to Trier, and presumably once to the district round Metz. In the interior introductions of the disease were frequently noticed from Prussia, 258 times into Saxony, and several times into Hess, Brunswick, Oldenburg, and various other small German States; from Bavaria into Prussia 63 times and several times into Saxony, Wurtemburg, Baden and Hess, from Saxony twice into Prussia, from Wurtemburg three times into Prussia, from Baden twice, and from Hess five times into Prussia, and the other small states also introduced the disease several times into Prussia.

The neglect or faulty carrying out of the police regulations in respect to the disease played a special *rôle* in the initiation of the outbreaks. Especially may be noticed the too early removal of the prohibition orders, faulty closing up of the farm premises, faulty control, lack of full information as to the infected premises, transgression of the rules as to hawkers, laxness of examination of trade cattle, disobeying the rules as to export of cattle, driving

diseased animals along the highway, especially along an infected highway and past infected farms, feeding on milk not boiled or insufficiently boiled. Very frequently the joint stock dairies have brought about introductions of the disease not only through the milk but through the active traffic to and from them.

The indifference of the small stockowner also frequently caused a spread of the disease, especially the omission to report and the delay in reporting an outbreak of the disease. Even with the most cautious carrying out of the prohibition orders the spread of the disease was brought about by various vehicles; as such may be noticed: neighbourly traffic, servants, church and school going, festivities, tradespeople, butchers, castrators, dairymen, shepherds, artisans, postmen, and so on. Also the billeting of soldiers was a repeated cause of the spread of the disease. Further, animals of another kind such as horses, dogs, cats, domestic fowls, other birds, as peacocks, crows, sparrows, starlings, and storks, also rats, mice, and game acted as vehicles of contagion. Animals that have been affected have spread the disease after months.

Finally a number of circumstances of different kinds in spite of all caution have contributed in spreading the disease. Here may be noticed returning from the cattle market, hawking trade, breeding operations, using animals for field work, sheep washings, trade waggons, infected food sacks and horse clothing, dejections from affected farms, unfavourable building accommodation, carrying of distillers wash and brewers grains from distilleries to the infected premises, common drinking troughs, infected fodder and straw, and very frequently also pasture-land. Also lax and faulty carrying out of disinfection of stalls caused renewed outbreaks. But also carefully disinfected stalls, transport and trade waggons have several times acted as carriers of infection.

The incubation period ranges from one to eighteen days, chiefly from two to five days.—Ex. *Berliner Thierärzt Woch.*

G. M.

NOTE ON THE EXISTENCE OF THE TRYPANOSOMA IN INDO-CHINA.—By M. CAROUGEAN, Pasteur Institute, Nha-Prang, Tonquin.

The Trypanosoma has been long known in the Far East, having been discovered by G. Evans in 1880, and proved to be the cause of an epizootic in horses, mules, and camels known as "surra." Steel recognised it in 1881-82 in the same disease in British Burma; Lewis found it in 1885 in the dog and in sewer rats in Calcutta; and Blanchard in 1888 in mules imported into Tonquin, but up to the present it has never been recorded in the indigenous Annamite horse.

Suspecting its existence I systematically looked for it amongst the horses at the Pasteur Institute, but without result, until I encountered it in the blood of certain horses which were being rendered immune for the preparation of anti-bubonic plague serum.

Immunity to human bubonic plague is obtained by various injections of progressive doses of the bacillus. These injections have to be carefully made, as at first the horse is peculiarly susceptible to the disease, and it is not rare to find obscure lameness, synovitis, and ophthalmia supervening on even a weak primary injection.

In some of my subjects which were mares there was arthritis of the hocks and peculiar lesions of the generative system, viz., considerable tumefaction of the lips of the vulva, at first with œdema, afterwards running on into inflammation, the mucous membrane being of a deep red. There was profuse mucous discharge and ulceration of the membrane, the pits being circular in shape and deep. The patients lost condition very rapidly, and became very weak, dying in a state of more or less well marked cachexia in about a month.

In examining the blood of these animals I detected the trypanosoma.

It would appear as if the parasite remained dormant until some debilitating influence allowed it to overcome the inhibitive physiological process and exert its pathogenic action. I found the trypanosoma in several similar cases in mares and one gelding in which the plague virus had caused accidents with rapid loss of condition.

It would appear that the parasite becomes active, as a healthy horse died on being inoculated from an infected case. I have also produced the disease from the horse in the dog, rabbit, monkey, rat and guinea-pig, each showing a different reaction.

The trypanosoma I have seen has the general appearance of those studied by MM. Rouget and Buffard except that it is somewhat smaller, but its dimensions, however, vary in different species.—From *Recueil de Médecine Vétérinaire*, 30th June, 1901.

JOSHUA A. NUNN, Vt.-Lt.-Col.

VETERINARY SOCIETIES.

IRISH CENTRAL VETERINARY ASSOCIATIGN.

The quarterly meeting of the Association was held in the Royal George Hotel, Limerick, on June 25th, 1901. W. A. Byrne, Esq., President, occupying the chair. The following were present:—Messrs. E. C. Winter, M. J. Cleary, J. F. Healy, E. Wallis-Hoare, C. Rea, P. J. Howard, Jas. Preston, Thos. Mulcahy, W. Power, S. T. Groome, J. F. Hayes, M. J. Mitchell, T. M. Ryan, and J. J. Vahey, hon. sec. Visitors: P. E. Byrne, Esq., Bismark, North Dakota.

Mr. W. Patrick, Ballinasloe, wired expressing his regret at being unable to attend the meeting.

The minutes of the last meeting were read and confirmed.

On the motion of Mr. Howard, seconded by Mr. Healy, a vote of condolence with the relatives of the late Mr. John Freeman, a former president of the Association, was unanimously carried.

The following gentlemen were elected members of the Association.

Mr. J. F. HAYES, proposed by Mr. Winter, and seconded by the President.

Mr. J. V. FINUCANE, proposed by Mr. Healy, and seconded by Mr. Groome.

Mr. E. WALLIS HOARE exhibited a number of very interesting specimens of ossific diseases of the horse.

Mr. E. C. Winter gave a short clinical history of a case of scrotal hernia in a three-year-old thoroughbred, successfully treated by the infection of a strong solution of iodine into the tissues around the seat of the rupture.

Mr. J. F. Healy brought before the meeting some interesting and instructive clinical notes, and exhibited an interesting specimen of chronic disease of the stifle joint.

Mr. P. J. Howard gave a short clinical history of a case of embolism of the iliac artery.

Mr. J. J. Vahey exhibited a calculus taken from the urethra of a bullock and briefly described the method of operation.

MENINGITIS AND ITS ALLIED AFFECTIONS.

E. Wallis Hoare, F.R.C.V.S.

Mr. President and Gentlemen,—I have selected as the subject for discussion this evening, the clinical history, pathology, and treatment of meningitis, and its allied affections.

Now technically speaking the term Meningitis would only apply to an inflammation of the meninges or envelopes of the brain and spinal cord. But Clinically we cannot differentiate between affections of the meninges and of the brain itself, of an inflammatory character, so that it will be necessary to widen the subject.

At the outset we must admit our ignorance on many points in connection with diseases of the nervous system. A reference to current veterinary literature will show what we have yet to learn on the subject, and a little consideration will explain the reason why these diseases are left comparatively unexplored.

In the first place they are usually not amenable to treatment, or they are fatal in their results.

Again, in consequence of the situation of the organs involved, there is great difficulty in exposing them for post-mortem examination ; very careful manipulation is necessary, and a skilled pathologist is often requisite in order to detect lesions in these regions. Indeed, we have often been disappointed after going to the trouble of examining the brain or spinal cord, to find no marked lesion present, although the symptoms presented by the case were suggestive of an interesting and instructive autopsy.

Although the diseases we propose to consider cannot be classed as of every-day occurrence, they are of sufficient importance to merit a discussion as to causation, prevention, and treatment. A comparison of experiences is the best method of elucidating facts in connection with diseases of an obscure nature, and often gives more useful and valuable information than scientific researches in the laboratory.

It is not my intention to bring forward anything new or startling on the subject, but simply to group together a few clinical observations, and then to depend on your superior judgment for explanations, instruction, and criticism.

We may take it for granted that when acute inflammation of the meninges occurs, the brain itself will be involved to a greater or less extent. No doubt text books give us certain diagnostic symptoms on the question of cerebritis and meningitis, and some practitioners of superior attainments in this direction may fancy that they can differentiate the various nervous affections, but clinical experience, which is the best teacher and the most reliable guide, leads us to believe that when the symptoms which we shall shortly describe are present, we cannot go beyond a diagnosis of inflammation of the brain and its membranes.

Let us glance for a moment at the anatomy of the parts involved. We have the brain surrounded by three envelopes.

Externally the Dura Mater, a fibrous membrane closely attached to the inner surface of the cranial bones and forming their internal periosteum. Its outer surface is connected to the bones by a number of fine fibrous processes and vessels, while the meningeal vessels ramify on the same surface. The inner surface is smooth and covered by an endothelial layer, it is intimately applied to the brain which is contained within the next two membranes. Processes are detached which pass inwards, forming partial partitions between different parts of the brain. The dura mater forms certain sinuses through which important blood-vessels pass.

The next membrane is termed the Arachnoid, which is like a serous membrane, its parietal layer being formed by the endothelial layer of the dura mater, the visceral layer surrounds the brain and covers the pia mater. Between the parietal and visceral layers is a space termed the *Arachnoid or sub-dural space*, the free surface of the membrane bounding this is smooth and moist. Between the visceral layer and the pia mater is another space termed the *Sub Arachnoid*. This space is continuous with the same space in the spinal cord and contains the cerebro-spinal fluid.

The Pia Mater is the internal covering of the brain. It is closely applied to the latter, and its structure is composed of delicate areolar tissue and bloodvessels, so that it has been termed the vascular membrane of the brain.

From this brief description it will be seen how delicate, vascular, and highly-organised these structures are, and how serious must be the effects of acute inflammation therein. Also in consequence of the continuity of the dura mater of the brain and spinal cord, there is a tendency for the inflammatory process to spread from one structure to the other.

As already remarked the post-mortem appearances, in cases that presented violent symptoms during life are often not well marked, and we are at a loss to understand how a congested condition of the meningeal and cerebral vessels, with effusion into the subarachnoid space and ventricles, can produce so formidable an array of symptoms.

In some text-books, a variety of affections are included under the heading of "Inflammation of the Brain and its Membranes. Thus we have phrenitis, stomach staggers, grass staggers, sleepy staggers, etc. It will be as well to try and make a distinction between these conditions.

"Staggers" might be applied to a variety of affections in which a staggering gait is a prominent symptom We must confess that we know very little concerning the real nature of what is known as "stomach staggers." Some authorities attempt to explain it as depending on engorgement of the stomach, which acts in a reflex manner on the cerebrum. We see cases presenting symptoms suggestive of engorgement of the stomach, and in addition a sleepy appearance and a staggering gait. Many of these recover after the action of a full cathartic dose. But in others, symptoms indicative of acute inflammation of the brain and its membranes present themselves, and a fatal termination is the result. In others again the autopsy does not show an engorged stomach, but a condition of acute gastritis is present.

These affections, however, should be carefully distinguished from what is known as "Megrims," which affects the horse suddenly while at work ; and, when the convulsive fit has passed off the animal appears perfectly well.

Under the heading of *Enzoötic Paraplegia*, Robertson describes an affection occurring as the result of feeding largely on rye grass. It is also known as grass staggers. He regards it as a spinal affection, gradual in its development, with a low mortality and depending on some specific toxic influence exerted by rye grass at some particular stage of its growth, and under certain

conditions. Not having met with any of these cases I shall not refer further to the subject.

The cases to which I wish to direct your special attention are those in which no deleterious agent exists in the food, and no appreciable cause can be assigned. We do not often see these cases at the commencement of the attack. As a rule we find the patients lying down, unable to rise, and in violent convulsions. In some instances the first symptoms presented are a staggering gait, a disinclination to move, a sleepy appearance, with a tendency to force the head against the manger or wall.

In a variable period excitement occurs, and the animal may walk round his box, the body becomes stiff, there may be twitching of the superficial muscles, and the *membrana nictitans* may be drawn over the eyes, as in a case of tetanus. There is marked constitutional disturbance present, and after a short time the animal usually goes down, struggles in a violent manner with fore and hind limbs, and sweats profusely. There are short periods of quietude, but without any warning the convulsions recur with great violence. The eyes are moved from side to side in a quick convulsive manner, and the *membrana nictitans* is drawn over the eye and suddenly retracted. The pupils are dilated in the secondary stages, and as a rule the temperature ranges very high, in some instances being 107 or 108°. The head is constantly forced backwards while the animal is lying down ; this is a very constant symptom. The animal may get up again and wander about the stall, knocking his head against surrounding objects. More commonly, however, he is unable to rise, and the convulsive movements of fore and hind limbs continue making it dangerous to approach him At intervals he may take a bite of hay in his mouth, or even feed from a bucket, but eventually he becomes comatose and dies.

The autopsy in every case that I examined showed acute gastritis, in some a large amount of ingesta was present in the stomach, in others comparatively little. The brain and its meninges showed the appearances described as indicative of acute phrenitis, but in very different degrees. In some there was a large amount of turbid fluid in the subarachnoid space, giving the brain an opaque appearance. In others the most striking appearance was the congestion of the pia mater, the most minute blood vessels being injected.

In one year I met with a large number of these cases, and whether by a coincidence or otherwise they appeared about the same time. While doing temporary duty at a cavalry barracks, I saw two cases attacked within a few days. A posting horse close by was affected in a similar manner a few days after ; in this animal abdominal pain preceded the cerebral symptoms.

When we are called to these cases and find them unable to rise, it is often difficult to arrive at a diagnosis. In the later stages of azoturia we have precisely similar symptoms, probably due to some toxic agent, the nature of which we are not aware of, acting on the brain and meninges. The urine at this stage may be clear in appearance and we have only the history of the case to assist us. In chronic renal affections, when uræmia occurs, convulsions of a similar character appear and an examination of the urine is necessary to form a correct diagnosis.

We now come to an important point, viz., the *cause* of meningitis in the cases we have mentioned. Various causes are suggested, but leaving out traumatic cases we must admit that we are as yet in the dark with reference to this subject. To term such idiopathic is no doubt convenient but is of no assistance to the question of prevention.

We cannot as yet explain in a satisfactory manner why it is that a horse may get a severe attack of abdominal pain and next day be attacked by acute laminitis. We may try and get out of the difficulty by advancing the theory of metastatis, or of sympathetic nervous influence, or what is more fashionable in the present day, ascribe it to the influence of germs. Well, it is rational to suppose that meningitis may occur in a similar unknown manner, and a certain proportion of cases of acute abdominal pain are followed by laminitis, and a smaller proportion by meningitis.

One would imagine from the situation of the central nervous system, that it would be less liable to attacks of acute inflammation from the source we have mentioned than is the case. We are almost inclined to believe in the sympathetic nervous influence unless some more satisfactory reason is advanced

We have met with cases of meningitis as a complication of the pneumonia of influenza. The patient may appear to be progressing favourably after a severe attack, when he will suddenly go down and exhibit the characteristic convulsive movements. In these instances we might justly believe in a bacillary origin of the affection.

Severe exhaustion is mentioned as one of the causes of meningitis, and I have met with a few instances in posting horses where the symptoms appeared a short time after the animals arriving from a long journey. The autopsy showed acute gastritis in every case.

Meningitis may occur from traumatic causes, such as fractures of the cranial bones, in which sharp spiculæ may penetrate the membranes. In cases of compound fractures it is probable that septic influences contribute to the result as well as the direct injury. A case came under my care lately in which a brewery horse got "wedged" in a narrow stall at night and showed evidences of prolonged struggling next day. The breathing was stertorous and the power of deglutition was lost, but at intervals the characteristic convulsive struggling occurred, and I ordered the animal to be destroyed. No autopsy was possible, as the case was over twenty miles from town.

Referring again to the question of "Stomach Staggers" it would be interesting to enquire as to the real pathological condition of the cerebrum in the cases that recover. The sleepy appearance of the animal, the tendency to press the head against surrounding objects, and the staggering gait suggest some alteration in the cerebral circulation, the exact nature of which we are unable to explain. But when such cases do not terminate favourably it is my experience that violent symptoms always supervene, indeed it is very seldom that the horse, no matter what disease he may be suffering from, departs from this life without a final struggle.

We shall now briefly refer to meningitis as affecting the spinal cord. Here again it is difficult if not impossible to differentiate affections of the membranes from diseases of the cord itself. Nor is it always possible to definitely determine whether the cerebrum and its membranes are not also involved in the affection. The causes are often obscure, those given by authorities being external violence, and exposure to cold and wet when fatigued.

I have clinical notes of one case ; a harness horse that had been sent a long journey by boat in cold weather. The first symptoms observed were a straggling gait in both hind limbs, and marked hyperæsthesia along the spine and gluteal muscles, indeed the animal would resent the slightest touch of the hand. The symptoms increased rapidly, the animal constantly lifting each hind limb from the ground in a convulsive manner, and apparently without any control over these movements. He went down the same evening, struggled in a convulsive manner, and died early next morning in violent convulsions. The autopsy showed the meninges of the spinal cord thickened and inflamed. This horse had been recently "docked" and the stump was in a very bad state. The owner stated that when the animal came off the boat he noticed a peculiar action in both hind legs. Whether the "docking" had anything to do with the spinal affection or not, is a matter for discussion.

Cerebro-spinal fever or epizoötic cerebro-spinal menin-

gitis, I have never met with, nor am I aware of its existence in this district.

Time will not permit me to notice meningitis as it affects cattle, and as I have no experience of it in these animals I hope you will fill up the blank by giving your experience on the subject.

In the Dog meningitis may arise from traumatic causes, from disease of the internal structures of the ear, and from violence inflicted on the head. It may accompany or be a sequel of distemper, and in such instances the symptoms presented may simulate those of rabies.

In some outbreaks of distemper we find meningitis of rather frequent occurrence, especially in highly bred dogs, and it is evidently due to some action of the distemper virus on the meninges. Some of these cases are characterised by irregular convulsive fits, which finally terminate in a comatose condition. In others these fits may be absent, but the animal becomes very irritable, and bites on being handled, gets into secluded corners, the eyes become inflamed, and sight may be lost, paralysis gradually supervenes, and the animal dies in a comatose condition.

Chronic Meningitis *may* exist in the horse, but I am not aware of any diagnostic symptoms in connection with it.

In the dog it is of more frequent occurrence. The following will illustrate some of the phases that occur in cases of this nature. This case has a melancholy interest for me as it occurred in a valuable bull-terrier dog that I imported from Manchester. The age was eleven months, and he had only arrived a few weeks when I noticed that he occasionally staggered when observing any object. When running in the field he would sometimes appear to lose control of his movements and later on would fall over if there was any obstruction in his way. He also seemed deficient in locating sounds, and if called would go in the wrong direction. These symptoms became aggravated and he would fall completely over when running. As he was constantly eating large quantities of grass I came to the conclusion that it was a case of stomach derangement, and after a purgative dose he appeared perfectly well. He showed a continual tendency to force his head against anyone that came near him. The next symptoms that presented themselves were, a tendency to go to the right side when walking, the head was turned to the left side, the nose pointing slightly upwards, there was loss of control over the right side of the body, if the head was slighly elevated the animal would champ the jaws, and fall over on the right side. When feeding the animal would snatch up each hind leg in a convulsive manner. The appetite was voracious, and the animal's condition very fat.

For about three months the symptoms continued in greater or less degree, some days there would be marked improvement, and a course of iodide of potassium seemed to give very beneficial results. Finally, the symptoms became more pronounced, the hind limbs became paralysed, convulsions of a violent character supervened, and I destroyed him with chloroform.

The autopsy showed acute inflammation of the meninges; on the left side the dura mater was adherent to the other membranes and very much thickened. The brain itself was extremely congested, and this organ when covered by the meninges was of a dark bluish-red colour, more marked on the left side. The stomach showed evidences of chronic gastritis.

The points of special interest in this case are the gradual development, no appreciable cause, the intermittent character of the symptoms, and the periods of apparent improvement.

Treatment.

We now come to the question of the treatment of the affections we have been considering. We must admit that when meningitis has developed and the patient down and struggling, treatment of any kind is of no avail, and the most humane procedure is to destroy the animal.

Every treatment has been tried, bleeding, sedatives, purgatives, anodynes, chloral, and even inhalation of chloroform, but all with the same result. Our attention should then be directed to the early treatment of those affections that are likely to terminate in meningitis.

Assuming that in many instances certain gastric derangements may terminate in cerebral complications, the first indication is to administer an active cathartic, aloes and calomel in full doses being the best agents. It is of the utmost importance to clear out the alimentary canal, and to divert the flow of blood from the brain.

Bleeding is recommended by most authorities in the early stages, and whether the symptoms be of commencing violence or sleepy in character it is indicated. It is of course useless afterwards. If the patient be excitable, nerve sedatives are indicated, of these chloral hydrate and bromide of potassium are reliable agents.

Local applications I do not consider of any value, and if there be any chance of success it must be brought about by prompt and active internal treatment.

Of course, as I have previously remarked, we do not usually see these cases in the early stages, and consequently are able to do little if anything for the patients when the disease is fully developed. I think it will be generally admitted that affections such as meningitis, stomach staggers, etc., are not prevalent in the present day as compared with former times. More attention to feeding, better regulation of work, and less injurious fatigue, are no doubt accountable for this.

In conclusion, I must apologise for the indifferent manner in which this paper is put together, but the short time at my disposal and the fact that it has been written in moments snatched from the routine of a general practice, will be the excuses that I beg to offer. If it should have the effect of exciting an interesting and useful discussion, and thus improve our clinical knowledge of the subjects noticed, I shall feel that my humble efforts have been amply rewarded.

Discussion.

The Chairman: Mr. Hoare was good enough to write his paper on short notice at a time when, owing to the absence of papers, we were on the point of abandoning this meeting, and I am sure the meeting will show its appreciation of his kindness in giving them the benefit of his experience and knowledge on the disease about which he has written.

Mr. Winter: With regard to Mr. Hoare's paper my experience is confined to half-a-dozen cases. In two of these the horses were uncontrollable. I did not see them in the early stages of the disease. One was so uncontrollable that he made furious attempts to climb the walls, and dash his head against the corner. He was totally blind. I adopted the means Mr. Hoare has suggested. I had the horse secured by six or eight men, cast him, and bled him. It is not so easy to bleed when the case is advanced. I got him bled and took about three quarts away, and I kept the cold hose plying on his head. I gave him a brisk dose of physic, took away the urine and fæces. I had to hold the horse down for two hours. This happened at midnight. Coming in the morning he had more or less quieted, passed urine normally, and was at work within a few days. In the other case, in trying to approach her in the stable she dashed out the door. It was a ricketty house. She cut clean away, rushed through a pond and tumbled over a fence. She was again secured and went around in a circle for three-quarters of an hour. We got her back into the house. I adopted the same treatment as in the other

case, and that mare recovered without further trouble except attention to dieting. About the case from the boat, I should call that tetanus from the symptoms described. I see nothing inconsistent with that diagnosis. I find it hard to draw the line between meningitis and tetanus. In dogs they are more uncontrollable than horses, but I think a brisk purgative and bleeding are most suitable. I never tried bleeding in dogs. I think we should be grateful to Mr. Hoare for the scientific manner in which he has treated the subject. Though he prepared the paper in a hurried manner very few of us would have done it so well more leisurely.

Mr. PRESTON: I have experience of hundreds of harness horses getting staggers—stopping on the road, and shaking their heads—we all know the symptoms. But by removing the blinkers, giving the horse a dose of physic, and driving him in an ordinary open bridle, ninety-nine out of a hundred never again get them. Why the blinkers do it I don't know.

Mr. WINTER: We have a case that got staggers more than once.

Mr. PRESTON: I generally tie them to some strong fixture and keep them there if they are furious. I had some bad cases and found the blinkers an invaluable remedy.

Mr. HEALY: I had a case of a racing mare. When racing she got the fits coming near the finish. Though winning she spread out and stopped, and no chance of finishing. She was put to the stud. One morning I was called up by the groom that the mare was in a frightful way, going around. I had to get hobbles to keep her down, and took a little blood. It did no good and she went off next morning. I made a post-mortem examination with another V.S. whose diagnosis was rupture of the brain.

Mr. VAHEY: About two years ago I treated a case of stomach staggers with cerebral complications, by physic and bleeding, it made a good recovery. The horse went away out of my notice to a place forty miles distant. About three weeks ago I chanced to meet the animal again, being asked to have a look at him as he had become affected with staggers. Every journey he went, after travelling about two miles, he got a mild attack; he stopped suddenly and seemed to partially lose control of his fore limbs; his head dropped between his knees, and his eyes became half closed. Those symptoms gradually passed away, and in from five to fifteen minutes the animal was able to resume his journey. Pressure on the jugular vein brought on the same symptoms. I do not know whether or not the previous attack of stomach staggers had anything to do with the production of this condition.

Mr. MITCHELL: I had a case in Forfarshire about four years ago. I found the horse standing asleep with his head in towards the corner. He was almost blind. After three days he fell down and died in agony. The post-mortem showed the brain was congested.

Mr. MULCAHY: In the beginning of last winter I was called to see a mare—a two-year-old. There was another gentleman in attendance, and I was called for a second opinion. She was considered a valuable mare. She showed all the symptoms of meningitis, with the head back occasionally, and plunging. The owner was a rather sharp man. He stated that he noticed her in the evening about five o'clock lame in one of the hind legs. He treated her for lameness. When in the stable it was not long before she began to go around, working in a fit. She got from bad to worse, and died the following morning. I thought the symptom of lameness in the hind leg was peculiar. There are a few cattle men in my neighbourhood who lost a great deal of cattle certainly through cerebral inflammation and brain symptoms. The cattle are reared on good sound land. They go out and find one of them perfectly blind. With difficulty the animal is brought into the house, they stagger about so much. These men are sharp, and one of them told me his experiences, saying that the next time he would send for me. He lost four this year. One only recovered and he treated her by putting handfuls of lard, about 3 lbs., down the throat. This acts as a cathartic. They don't know what causes this and it is peculiar how it occurs in this neighbourhood.

Mr. MITCHELL: Do they use any artificial manures?

Mr. MULCAHY: No! They are all graziers. I had a good many spinal cases. I have seen one fall down and injure her back. That was the first symptom. She had lost the whole power of one side. When she came to foal I happened to be there. She hadn't the full power of foaling, and I took the foal from her and it died the day following. The mare retained the placenta for nine days and did not show any septic poisoning. The extraordinary thing is that she was as fat as a bullock. I do not believe now it was an injury, I think it was inflammation of the spinal cord. Another case was a two-year-old colt which injured his back. I saw him treated hypodermically with blistering of the loins. Within the last two or three years I have had a lot of cases of injury to the spine.

The CHAIRMAN: Supposed injuries to the spine.

Mr. MULCAHY: Yes, I don't believe now that they were injuries to the spine. Mr. Hoare's paper is most interesting and I regret that we have not the chance oftener of having such interesting papers.

Mr. HOWARD: We cannot sufficiently thank Mr. Hoare for his efforts in providing such an interesting paper. I have not much experience of cases such as mentioned. I had one good one. The animal reared and badly injured his head, but made a good recovery. I agree with the remark of Mr. Preston about horses in harness suffering from staggers, and that horses when driven with an open bridle do not have these things. But how it is that the bridle causes it is a mystery to me.

Mr. HEALY: I rather think disease of the brain would do it.

Mr. HOARE: With reference to the case I reported of spinal disease which Mr. Winter thought might be tetanus. There were no tetanic symptoms. It commenced suddenly, there was no twitching of the tail but simply staggering, I don't think this suggests tetanus. In this case the first thing you notice is that the horse falls all over the place. Another symptom you don't get in tetanus is that the moment you went near the horse he shivered. With regard to the blinkers, this is an interesting question. I had a horse myself, one of the best I ever drove. He never got these tricks and megrims except on a sunny day. Then he shook his head as if something in the air caused him to jump, when got out of the bright sunlight he got all right. Megrims is a disease in itself and different from stomach staggers. A good dose of physic and tie him up is all that is needed. I have a case which got this twice in double harness, each time with shaking of the head. If they are pulled up in stomach staggers they fall without any warning at all. In other cases they give premonitory symptoms. I think megrims is some disease in the brain that we know nothing about. I never knew horses to be destroyed from megrims. The sunlight has a lot to do with it.

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

The sumer meeting was held on Friday, June 28th, at the Great Western Hotel, Reading, when there were present: Mr. G. King (Abingdon) the President, in the chair; Messrs. E. P. Owen, hon. sec.; Abert Wheatley, S. Villar, S. H. Slocock, F. W. Wragg, A. L. Butters, James F. Simpson, W. G. Flanagan, T. W. Lepper, and

C. Wood Page. Prior to the meeting the members lunched together at the Hotel.

The minutes having been confirmed and signed,

The PRESIDENT announced apologies from Messrs. J. P. S. Walker (hon. treas.), F. W. Hanks, T. B. Goodall, W. Wilson, J. McKerlie, E. C. Howard, H. Lepper, H. Percy Simpson, H. C. Jagger, J. S. Hurndall, James East, and Prof. Pritchard.

THE TUBERCULOSIS CONGRESS.

The PRESIDENT said no doubt most of them had subscribed to the expenses of the Congress in their individual capacity, but he thought they ought also as an Association recognise the honour done the profession in alloting them a special section at the Congress by voting a sum of money.

On the motion of Mr. Wragg, seconded by Mr. Simpson, it was unanimously resolved to appoint the President and Hon. Sec. delegates, and to vote a subscription of three guineas to the general fund.

PRINCIPAL WILLIAMS MEMORIAL.

Mr. VILLAR, in accordance with notice, proposed that the sum of five guineas be voted out of the funds of the Association to the Memorial to the late Principal Williams, of Edinburgh.

Mr. BUTTERS seconded the resolution, and it was unanimously agreed to.

PLACE OF NEXT MEETING.

It was resolved, on the motion of Mr. Butters, seconded by Mr. Villar, that the November meeting of the Association be held at 10 Red Lion Square.

AN INTERESTING CASE.

In writing that he was unable to attend the meeting, Mr. H. C. Jagger, of Bicester informed the Secretary that he had an interesting case of double optic neuritis and retinitis in a spaniel, which he had seen beautifully with the ophthalmoscope; and offering to send the animal and the instrument to Reading. Mr. Owen explained that he had had no time to communicate with Mr. Jagger, but would write and thank him for his very kind offer.

CONTAGIOUS EQUINE PLEURO-PNEUMONIA.

By JAMES F. SIMPSON.

Mr. President and Gentlemen,—At very short notice, and at a busy time, I have been called upon by our President to introduce a subject for discussion at this meeting. The few remarks which I have to offer for your consideration are undeserving of the name "Paper." In selecting the subject "Contagious Equine Pleuro-Pneumonia," I must confess to a not unselfish motive, as I anticipate gaining—from the discussion and the narration of your personal experiences—an addition to my comparatively limited store of knowledge with regard to this particular disease.

The words "Contagious Pleuro-Pneumonia" have been with us for so many years in connection with cattle only, that it becomes advisable, for my own protection, that I should say at the outset I do not entertain the view that this disease of bovines is in any way allied to equine contagious pleuro-pneumonia. Each disease is peculiar to its own species, and it would be as impossible—so far as my experience goes—to convey equine pleuro-pneumonia to the bovine, as it would be to convey bovine pleuro-pneumonia to the equine.

I am in no position to demonstrate to you the organism which is responsible for the disease with which we are concerned to-day. That its existence and spread is due to such a cause I do not think any doubt exists, though it would appear that bacteriologists disagree as to which of the discovered organisms in connection with the disease is the true and only cause. That discovered by Schütz is, I think, usually accepted by veterinary bacteriologists. A description of this organism is undesirable, even if I were in a position to discuss that part of the subject; we of the rank and file must, I think, be content with the knowledge that we are dealing with a contagious disease, and leave to our experienced bacteriologists the decision as to which of the discovered organisms is responsible for it.

After repeated conversations with practitioners of large and ripe experience, I am fully prepared to hear doubt expressed as to whether such a form of pleuro-pneumonia as that which is suggested really does exist. It has more than once been suggested to me by practitioners, for whose practical knowledge I have the greatest respect, that so-called contagious equine pleuro-pneumonia is simply influenza of the horse, with lung and pleural complications. To this view I cannot subscribe, although I, of course, readily admit how frequently such complications arise when dealing with influenza, especially in those cases in which horses affected with that disease in its early stages, with a temperature of from 102° to 103°, have been compelled to work.

Starting then with the belief that we are dealing with a specific fever, we may proceed to discuss it. Unlike contagious pleuro-pneumonia of cattle, the disease is communicable not merely by immediate contact, but through the medium of infected litter, clothing, sponges, and the like, and what is of more importance to remember, it may be conveyed through the medium of the attendant upon an affected animal. The organism which is responsible for the disease is possessed of great vitality outside the body. This is sufficiently proved by the fact that the disease will "hang about" the stables of a stud for fully a fortnight or three weeks, and occasionally longer, after the last observed case has recovered. In the absence of many recorded cases of experimental infection, it is difficult to lay down any rules as to the length of time the organism may remain in the system before a marked rise of temperature takes place, and the observance of other early symptoms; but, speaking generally, and comparing the so-called incubative stage with that of horse influenza, it may said to be a long one, probably from 5 to 10 days. Much of course depends upon the amount of virus taken into the system and the length of exposure either to the immediate or mediate contact; thus the incubative stage would be shorter in an animal exposed to immediate contagion than it would be in the case of mediate contagion.

Pleuro-pneumonia is rarely seen in single horse stables, or if seen rarely recognised as such. More frequently is it observed in large studs, and even in these the first case may pardonably be mistaken for an ordinary case of influenza with lung complication; but when a second case follows, perhaps 5 days later, it is as well to recognise at once that if the stud is a large and a valuable one cases will follow in sufficient number to keep the professional attendant free of anxiety for several weeks, however perfect may be the construction of the stable, and the facilities for the observation of isolation.

Regarding the question of stable construction, it must not be inferred by my last remark that when the disease is fairly established one is to abandon hope of suppressing its spread, and my reason for making reference to it is to emphasise what I fully believe, namely, that the prevention of the spread of the disease is extremely difficult under the most favourable conditions, seeing that it may be conveyed so readily by mediate contagion long after contaminated clothing, litter, &c., have been removed from an infected animal, and by apparently recovered animals for weeks after they have reached the convalescent stage.

SYMPTOMS.

The symptoms observable depend very much upon the

extent of infection, consequently they may vary in different animals, but they may be thus described :— Rise of temperature varying from 104° to 107°, capricious appetite, cold extremities, pulse from 75 to 90 to 105, respirations quickened 24 to 80, and as a rule of an abdominal character, and a suppressed grunt is observed with each expiration. Manipulation of the chest occasions pain, the visible mucous membranes are more or less injected, becoming darker in color as the disease advances ; great depression accompanies the disease, and the patient rarely lies down, except in those cases in which the pleura is not extensively affected. Cough is not an invariable accompaniment of the disease, but when it is observed it is of a suppressed and painful character, and evidence is apparent of the intense pain it occasions to the animal. Soreness of the throat is rarely observed, and this is fortunate, for a reason which I refer to when dealing with treatment. Auscultation reveals evidence of consolidated patches in one or both lungs, and this may be followed by gangrene, in which case fœtid breath is observed.

The temperature which from the outset is high will, as a rule, remain obstinately so for very many days. As an instance of this, I may mention the case of a Shire filly whose temperature ranged from 107° to 108° for eight consecutive days. She eventually made a good recovery and has since taken many prizes. The pulse is of a weak character, and although I have seen instances where its frequency has reached 100 per minute, it is almost characteristic of the disease that the daily drop in frequency, even in those cases which give promise of recovery, is slow.

As the disease advances the depression is more marked, the patient has a haggard expression, the usual foods are rejected, the bowels become constipated, the abdominal character of breathing becomes more marked, and a discharge (sometimes of fœtid odour) is observed from the nostrils. Effusion into the chest is not always extensive, but on post-mortem of an animal in which it has taken place and has succumbed, the fluid is of a dense and putrid character. The extent of temporary blocking in the lung does not necessarily indicate the result which may occur. Cases of apparent consolidation over a large area will frequently make a good recovery, while on the other hand, a limited area of consolidation will occasionally become gangrenous and the animal die.

Treatment.

Keeping in view that we are dealing with a specific fever, I again urge the necessity of isolation of infected animals. Whether it is advisable to remove the affected animal from its own box or whether it is preferable to remove the healthy ones from those near the affected one must be determined according to the accommodation available and the extent to which infection is possible. Having decided that contagious equine pleuro-pneumonia exists, a special and reliable attendant (or attendants—depending upon the number of affected animals) should be place in charge, with instructions not on any pretence to go into the box of an apparently healthy horse. Marked buckets, rugs, brushes, bandages, etc., should be set aside for use in the infected boxes, and on no account used, however long they have been removed, until thorough disinfection has been carried out. The patient should be well clothed and the extremities bandaged with woollen bandages, the latter frequently removed, and the legs well hand rubbed before their re-application. As much fresh air as possible should be admitted into the box, and as there is a disposition for the animal to poke the nose into a corner it is advisable to turn the head occasionally in the direction from which the purer air can be obtained. The usually recognised manger foods may be given, but preference should be given to bran mashes and scalded oats, with either roots or green food, according to the season of the year. Water should be allowed to remain constantly by the patient. Having regard to the great depression which is always present it is of the utmost importance that the animal should be well supported by food. If he is disinclined to take it in the ordinary form, I have found the extract of malt dissolved in the water to be an excellent substitute, and in many cases it is readily, and sometimes greedily, taken, and to this may be added a liberal supply of alcohol in the form of whiskey. I advocate this means of giving nourishment preferably to constant drenching, of which the patient soon becomes tired, for the reason that I am an advocate for the frequent administration of drugs in these cases, and I dislike disturbing the animal more than I can help except for this latter purpose. The inhalation of some simple antiseptic is advisable, especially in those cases with fœtid breath, and this is best given by mixing eucalyptus with boiling water into which some hay is placed, but only for the purpose of obtaining a concentrated bulk of steam. On no account in these cases should inhalation be administered by hot material placed in a nosebag ; this latter practice is one which I always condemn for reasons which must be obvious.

The bowels should be carefully watched and any constipation should be overcome by giving 2 to 3oz. doses of Mag. sulph. night and morning in the water. Even in those cases where constipation is not present this agent is of the greatest assistance not only as a bowel regulator but in my opinion as an antipyretic.

As regards other drugs to be employed in the treatment of the disease I am a strong advocate for the frequent administration of medicines not merely through the day but regularly through the night. If the attendant (groom) is able to give balls (and really in some localities balling by grooms may almost be described as a "lost art"—hence the word "If") without lodging them on the molars, I prescribe small balls each containing Ammon. carb. ℥i., Pot. chlor. ℥i., Quin. sulph. ℈i. excipient ad. ℥iv., not less than every six hours ; a smart dressing of mustard and water over the whole of the chest wall may be used in the early stages and repeated if necessary. In those cases in which there is distinct consolidation of lung or effusion into the chest Pot. iodid. in ℥i. doses may be added to the above prescription, but given only every twelve hours. In those cases in which the attendant is unable to administer balls the carbonate of ammonia, chlorate of potass, and quin. sulp. may be given suspended in cold gruel, and in such cases from ℥vi. to ℥viii. of whiskey may be added to the draught instead of giving it in the drinking water ; while the pot. iodid. may be given in the ordinary drinking water.

I have advocated a treatment so far as the use of drugs is concerned, which is expensive and difficult to carry out, except reliable and apt attendants are available but given these I am of opinion that the best results are obtained by the suggested treatment.

That we are dealing with a very fatal disease will be admitted by all who have had the misfortune to encounter Contagious Pleuro-pneumonia. To those gentlemen I need offer no suggestion ; but to those whose happy professional career has given them little or no experience of the disease—for I do not view it as a very common one—I would venture to offer a word of advice—do not be disheartened by frequent deaths—take comfort in the knowledge that if you have observed isolation, insisted on good nursing and treated your patients on modern lines your percentage of deaths will not exceed those of other practitioners.

Sequelæ.

The results of an attack of contagious equine pleuro-pneumonia are many, and their gravity will, as a rule, depend upon the severity of the attack. It is quite possible to bring about complete resolution, but more frequently it will be found that pleuritic adhesions

have taken place to a greater or less extent, though in many cases insufficient to interfere with the future usefulness of the animal.

Chronic diseases of the lung may remain, and it is the opinion of one of our eminent teachers that even a gangrenous portion of lung may become encysted and the animal again become useful. I have seen laminitis as an accompaniment and as a result; while it is not uncommon for an attack of rheumatism of the tendons to supervene. Roaring is a very common result of even a comparatively mild attack. Paralysis of the hind quarters too is an occasional sequel.

Mr. President, I must apologise to you and the members for so imperfect an address. I have obeyed your command to produce "something" and doubtless the discussion may prove of more interest and be more instructive than the address itself.

Discussion.

The President said he was sure they had all listened with a great deal of interest, and no doubt many of them with a great deal of instruction, to Mr. Simpson's paper. Mr. Simpson had very kindly prepared his notes at very short notice, the Secretary having been disappointed as to another paper. He asked Mr. Villar to open the discussion.

Mr. Villar said they could all agree that Mr. Simpson's paper was eminently practical, very scientific, and just the sort of paper they were all delighted to hear at their meetings. He took it the only opposition that could be heard to his views was as to whether contagious equine pleuro-pneumonia was or was not a form of influenza. (Hear, hear.) He was not prepared to contradict Mr. Simpson when he said it was not so; but he had always held that it was really a form of influenza —not one of those forms in which a horse had been worked after being sick, but through the infection passing possibly through the nasal chambers and the trachea on to the lungs, where the disease centred. That was to a great extent borne out by Mr. Simpson when he spoke of *sequelæ* of that contagious pneumonia—roaring, rheumatism and defective respiration, all of which were also common sequelæ of influenza. (Hear, hear). A microbe was the cause under any circumstances. He was surprised when Mr. Simpson told them the disease could be carried by the attendants; if so it was a serious question for veterinarians to consider whether they did not carry the disease themselves. All metropolitan practitioners had had several outbreaks of the disease; and he had never had reason to think that he was the culprit in conveying it. One method of contagion to which Mr. Simpson did not refer was that of horse-boxes. Some eighteen months ago he bought a hunter at Maidenhead, from a stable in which all the horses were in the pink of condition. He was railed some twenty miles, and the fifth day after arrival he fell with that disease and was very ill, also infecting other horses. That was not the only case by a good many in which that and other kinds of disease seemed traceable to horse-boxes—(hear, hear)—and he thought it well within the province of Societies such as that to point out to the persons responsible for horse-boxes how very easy it would be to have them disinfected, and the windows and ventilators kept open when not in use. (Hear, hear). As to the period of incubation, he could not recall a case in which it had been so long as ten days, but he thought Mr. Simpson quite right in saying that no appreciable signs of illness were visible until after four days from exposure to infection. As to treatment, as soon as a horse had diarrhœa he would surely die, whether from medicine or in the ordinary course of the disease. Mr. Simpson advocated the use of a very large quantity of medicine, and of a good many kinds, administered day and night. In that he was opposed to him, for he did not think the course of disease was to be very much altered by the exhibition of drugs. Good hygienic surroundings, plenty of fresh air, nursing, warm clothing, mag. sulph. and sulphate of quinine were, he thought, all they could do. He objected to carbonate of ammonia balls, which sometimes acted as an irritant to the mucous membrane, and also set up purging. The great thing was to get nourishment into the patient, and if his mouth was blistered with carbonate of ammonia balls it was not likely he would feed very well. (Hear, hear). He agreed with Mr. Simpson that the rate of mortality in some of the outbreaks was very high. He was inclined to think, as in many other diseases, the real cause was that horses were worked a day or two after they had been sick. When they were carefully watched over, and not put to labour, in his experience the disease assumed a very much more benign form. (Appl.)

Mr. Wragg said he was one of those practitioners who up to now had failed to recognise this as a separate disease. Perhaps he might be allowed to make a remark or two on equine pleuro-pneumonia as he saw it, viz., as a sequel to influenza, or as a symptom that came on very shortly after the disease of influenza had developed. His experience, as to treatment, was that they could give almost any amount of carbonate of ammonia every four hours during the day and night, and when he saw it act well on the kidneys he felt pretty sure his patient was going to recover. Constantly in cases of influenza they gave beer in water, and as soon as a horse began to refuse the beer they might be sure the temperature was lower, and that the animal was begining to recover. They would also drink whisky and brandy in water. In cases of the so-called enteric form of influenza, where it attacked the bowels and the horse was in a great deal of pain, he had many times given brandy in the water, and they would drink it readily; but latterly he had come to the opinion that the carbonate of ammonia ball was as good as the brandy. Then he thought there was nothing like quinine as an agent to lower the temperature. Mr. Simpson had spoken of mustard to the sides, but for a great time now he (Mr. Wragg) had discarded mustard, thinking it often killed the patient by causing so much irritation and depression that they collapse from the excitement of the stimulant. He relied more upon drugs and a cool, airy box, with proper attention paid to the animal. With regard to feeding, he kept all food away for the first twenty-four hours, either in influenza or chest cases, as he was satisfied that the digestive organs were better quiescent. When he gave anything he preferred a very small quantity of corn and chaff to bran mash, being of opinion that in a great many cases of influenza bran was poison to a horse. Another drug which he used, and liked quite as well as carbonate of ammonia, was salammoniac or chloride of ammonium: the latter had the advantage that if it was broken in a horse's mouth it did not cause any excoriation of the membrane. On the other hand, if the horse had a very weak pulse, they must not keep on too long with it, and under those circumstances he went back to the carbonate of ammonia. (Applause).

Mr. Butters, like Mr. Villar, was inclined to think the disease spoken of by Mr. Simpson more or less a form of influenza—at any rate it was very difficult to differentiate between them. Although he had a good many cases of chest affections, especially among horses newly purchased from the country, or moved by rail from one part of the country to another, he did not know that he had been clearly able to distinguish pleuro-pneumonia of a contagious character. As to the cause and spread of the disease, Mr. Villar had drawn attention to horse boxes. He quite agreed that they were badly ventilated; and without saying that the bacillus which caused influenza was previously in a box he thought that if they shut an animal up in a close horse box for two or three hours they would, the same as if he were shut in a close stable, get chest affections simply because of the want of ventilation and the bad hygienic

surroundings. Unless they allowed an animal plenty of fresh air not all the cleansing and disinfection would be of any avail. He was glad that Mr. Wragg had discarded the use of mustard to a great extent, as mustard left an amount of soreness and irritation of the skin which prevented the animal resting. He found fomentations to the side a much better treatment for chest affections. (Hear, hear.)

Mr. WHEATLEY pointed out the great importance of isolation of all horses in a stable where a case of influenza appeared. If the box had a half door he had the top left open, and was always very particular also that the patient had a good bed—in fact he prohibited his men taking out any but the very wet manure from under a horse, because by that means the box was warmed. The only time he used mustard was rubbing it in dry to the legs, and then in the case of a cart horse, he put on flannel bandages or hay bands. For the chest he used what he called a hot compress. He had rugs in strips about three yards long, dipped in hot water, folded fairly dry about the chest, and over that he put a piece of mackintosh. He also used an electuary, put up in honey or treacle. He had always recognised the disease under discussion as one form of influenza. It was a very important subject, and he thanked Mr. Simpson for bringing it forward. (Applause).

Mr. SLOCOCK, like previous speakers, thanked Mr. Simpson for his excellent paper; but he did not agree that this was a disease *per se*, having always regarded it as a complication of influenza, the influenza being undoubtedly a specific disease due to an organism, in the form of septic pneumonia. Those outbreaks were very frequent in his, which was a market gardening, district: and that he attributed to the market gardeners when they brought manure down from London, as they did three or four times a week, shaking out and using for bedding the best litter. He thought pneumonia in the horse might be due to overwork or exposure to bad weather. His treatment was much the same as that of previous speakers; but the medicine to which he had pinned most faith in recent years in lung complications was iodine, which he had used in several forms, favouring most the syrup of ferri-iodine, which horses would take in their drinking water and food. He could not quite agree with Mr. Simpson as to the attendants carrying the disease, having never recognised such a case. (Hear, hear.)

Mr. LEPPER agreed with Mr. Simpson in most points, but he differed from most of them in calling this a disease *per se*—separate from influenza. If he made post-mortems of all the animals he thought he would find a great many cases of simple pneumonia or gangrenous pneumonia without the pleurisy. From his experience, when influenza was established in a place isolation was not of much use. He agreed that in all affections of the lungs iodine was a very excellent remedy, and he used several forms of it, even giving a simple preparation in the drinking water, which horses took very readily. (Hear, hear.)

Mr. WOOD PAGE and Mr. OWEN having made a few remarks,

Mr. FLANAGAN said during the time he was an active veterinary surgeon he always considered the disease under discussion a sequel of influenza. Fresh air, and keeping the extremities warm, were very valuable adjuncts to treatment. He had found, especially in cattle practice, as much benefit from camphor, with carbonate of ammonia, as from any other drug. (Hear, hear)

The PRESIDENT congratulated Mr. Simpson not only on the excellence of his paper, but also on the well-sustained and lively discussion which had followed. (Hear, hear.) He (the President) thought, with Mr. Simpson, that this was a distinct disease. When they got four or five cases following each other in a stable, all presenting the same symptoms, they could but come to the conclusion that the same cause was operating in them all. No doubt there were degrees in this disease, as in every other. He would have liked to hear Mr. Simpson make comparison between that disease and "pink-eye." There appeared to be three distinct diseases before them—contagious pleuro-pneumonia, "pink-eye," and ordinary influenza with lung complication; and he thought he had been able to satisfactorily differentiate between all of them. There were known symptoms of "pink-eye" in the so-called contagious pleuro-pneumonia, but not the swollen eyelids or distinctly swollen and painful limbs and chest. As to tottering gait, he had recently a thoroughbred which appeared to have almost entirely lost control of the hind extremities. He gave him some big doses of nux vomica and quinine, and in three days the symptoms all vanished. He relied to a great extent, as all of them did, upon hygiene. If the weather was at all good, whatever the condition of the animal, he left the stable door open. (Hear, hear.) He quite agreed with Mr. Butters in his remarks about horse-boxes, except that he did not think shutting a horse in an ill-ventilated box would produce pneumonia. As to drugs, there was one which had the same effect as mag. sulph., viz., Glauber salts, which horses took very readily, and which was not quite so drastic. He also gave quinine in big doses, never less than a drachm, and he gave it in combination with spirit of ether nit. He also used good stout freely instead of spirits, which took a horse off his appetite, whereas stout was also nourishing. After the earlier stages he generally gave quinine accompanied by nux vomica, and recommended the liquid form of strychnine, by which they could tell exactly the amount of the poison they were prescribing. He again thanked Mr. Simpson for the ready way in which he stepped into the breach, and undertook to give them what had proved a very interesting and instructive paper. (App.)

Mr. SIMPSON replied. There were, he said, members joining in the discussion who were a bit "sitting on the fence," and others who utterly disagreed with him. With the exception of the President it appeared that no one really agreed that the disease under discussion was anything else than a pneumonic complication of ordinary influenza. He told them at the outset that he was quite prepared to hear that, but he believed the time would come when they would agree with him, and shake off the old notions that had no doubt long served them in good stead. Experimental inoculations had been made. The material obtainable from the diseased lung had been inoculated into the live subject, and precisely the same symptoms had been observed from it, and the disease had undoubtedly been proved to be "contagious equine pleuro-pneumonia." He believed the professors who had so described it were absolutely right, and that most practitioners would in time come to agree that contagious pleuro-pneumonia in horses was a disease of itself. Surely they would recognise that before the exact organism of the disease was determined—that as many organisms were found in animals suffering from specific diseases, time must be given for the scientists to separate the organisms which, as he suggested, was the sole and only cause of the disease. If they were to wait until an organism was actually isolated before they could declare that it was a contagious or specific disease, they would have to wait a long time. In the case of anthrax he did not think they waited until the organism was discovered, although at one time they were content to call anthrax, as affecting the bovine, splenic apoplexy, not then dreaming that there was an organism responsible for it. No doubt rheumatism and roaring were *sequelæ* which might follow any long and painful disease, and therefore it was no argument against his suggestion that this was a specific disease that they also had such *sequelæ* in influenza. He had not the smallest doubt in the world that the attendant could convey the disease by his clothes. In speaking of the pneumonic form of influenza he thought

that Mr. Villar had rather played into his hands. He believed it was the opinion of all teachers that the incubative stage of equine influenza was a very short one. He did not hesitate to say that influenza had not an incubative stage as long as five days. Other friends had opposed the frequent administration of drugs. In simple influenza there was certainly no need for it. As to treatment, he admitted that there was nothing more irritating to the buccal membrane thant he breaking of a carbonate of ammonia ball within the mouth. But why break it? Only the previous day he heard that a practitioner in Lincolnshire advocated the administration in connection with constipation of the bowels, of four ounces of carbonate of ammonia given in four balls at one time. If they wanted to give a horse whiskey in his water they need not hesitate for a moment, for he would not refuse to drink it. He could not agree with Mr. Wragg as to the application of mustard, because by the application of that or other irritants the lungs were quickly relieved; and as to bran, he had given horses large quantities of it, but had not yet succeeded in poisoning one with it. Nor could he agree that in a depressing disease, such as they were discussing, it was wise to keep food away from an animal. On the contrary, he attached the greatest importance to sustaining the animal, particularly when they took into consideration the weak condition of the heart and the general depression. If they got contagious pleuro-pneumonia among a stud of horses they would lose a lot of them. Ordinary pneumonia might be contracted in a horse-box, but as to the disease of which he was speaking it could not be induced by such circumstances, however unfavourable. Unquestionably they should go in for isolation where the conditions were favourable. As to Mr. Wheatley's hot compress, he also advocated it if they could keep it hot and keep it from getting cold. Mr. Wheatley's system of application was undoubtedly the best; but do what they would with hot fomentations they were very disappointing if one wanted to maintain them for a long time. He held the opinion that "pink eye" was absolutely a separate and distinct disease from contagious equine pleuro-pneumonia; indeed, he saw no likeness the one to the other in any possible way.

In conclusion, Mr. Simpson thanked all present, observing that it was most gratifying to him to have said something which, whether they agreed or not, had evoked such an interesting discussion. (Applause.)

The meeting closed with votes of thanks to Mr. Simpson and the President.

EXTRACTS AND NOTES

ROYAL VETERINARY COLLEGE.

In his capacity as President the Duke of Cambridge took the chair at the annual meeting of governors of the Royal Veterinary College, held Friday 12th at Camden Town. Those present included Lord Egerton, Lord Calthorpe, Lord Moreton, Sir H. Vincent, M.P., Sir F. FitzWygram, Sir Nigel Kingscote, Mr. A. Brassey, M.P., Sir George Brown, Veterinary-Colonels J. Lambert and F. Duck, Prof. J. M'Fadyean, the principal, Mr. Romer Williams, and Mr. R. N. Powys, secretary.

The Duke, who was cordially received, expressed regret at the diminution in the number of students, many of whom had gone to South Africa to fight their country's battles. The falling off was only temporary, and on the restoration of peace the men would return to their studies. He was glad at all times to be present whenever he could be of any use to the College, which he hoped would continue to improve and increase in membership every year. It was a great pity that the Institution was not better known, inasmuch as the scope of veterinary science was becoming very much enlarged, offering exceptional opportunities for young men to enter the profession. The investigation of disease among animals had proved of the highest value to the medical profession in the treatment of human disease. The appointments open to students of the veterinary profession were largely increased both in importance and remuneration. They lived unfortunately in an age of advertisement. He was not fond of advertisement, but it was indisputable that unless they made their work known they were not likely to attract recruits to the Veterinary Department, which was so desirable in the interests of the country.

Colonel Sir Nigel Kingscote having seconded the proposal, the report was adopted.

The Duke of Westminster and Sir James Miller were elected governors of the institution.—*The Times.*

CHARGE OF BEAST STARVING.

"Living Skeletons."

At the Pocklington Police Court on Saturday, June 1, before Messrs. T. W. Calverley-Rudston and J. T. Elgey, William Byass, farmer, Little Givendale, was charged with ill-treating three heifers and two steers. Mr. A. Neill, Bradford, conducted the case for the Royal Society for the Prevention of Cruelty to Animals, and Mr. H. S. Powell defended.

P.C. F. Harrison stated that on April 20th he visited defendant's farm about 12 noon. In the foldyard he saw four beasts, all of which were in very poor condition. In a box he found two beasts lying down, one dead and the other unable to rise. They were in a poor, emaciated condition, due, in his opinion, to insufficient feeding. In a shed he found another dead beast. Another one was almost dead, and a third was extremely weak. He thought the beasts were suffering unnecessary pain by being starved. Defendant told him that the beasts had been in a bog.

Superintendent Jackson visited the farm on the 20th of April. He described a heifer which he saw lying under the waggon shed as a "living skeleton." He saw other beasts which were suffering, in his opinion, unnecessary pain.

On cross-examination, witness said he knew farmers in Holderness lost cattle in bogs, but the ground on defendant's farm was not nearly so soft as that in Holderness. He considered bog was an erroneous description.

Inspector Clayton, of the R.S.P.C.A., said one heifer was in a very emaciated condition, and was perfectly helpless. Another one was "nothing but skin and bone." Both beasts, in his opinion, suffered from continued starvation.

Mr. F. Somers, M.R.C.V.S., Leeds, deposed to examining a steer, which "was suffering from chronic diarrhœa, and long and continued neglect." There was not a vestige of hay on the farm.

Mr. Powell, for the defence, said that defendant farmed 530 acres. About two years ago he left a farm of 900 acres. He called Mr. R. J. Hicks, F.R.C.V.S., who said he visited defendant's farm on April 20th, in company with Superintendent Jackson. He found a red heifer lying dead, and on making a post-mortem examination he found the stomach was filled with food, and that the animal had been fed for several days prior to that date. He noticed a heifer, which was lying down and could not rise, was suffering from paralysis and an injured back. It was suggested that the animals had got into a bog, and their condition was quite consistent with that

story. There was no evidence to show that they had suffered from hunger. On Cross-examination Mr. Hicks said the beasts suffered from partial paralysis, and not from starvation.

Mr. Brigham, veterinary surgeon, said when he saw a steer on April 30th, he formed the opinion that it was suffering from tuberculosis. The beasts had not been starved.

E. A. Byass, son of defendant, said he had fed the beasts regularly. He had assisted in dragging them out of the bog.

The defendant, called, said the beasts were well fed, but some of them did not thrive on their food. They got starved by getting into the bog. On cross-examination, he said five beasts had died in one week. Four had been "bogged."

George Downing, labourer on the farm, said the beasts were properly fed.

The magistrates retired, and after a short deliberation the Chairman said they considered the case one of the worst cruelty cases that had ever been brought into that court. There was a previous conviction against defendant for illtreating a horse, and they considered that a fine would not meet the present case, and defendant would therefore, be committed to gaol for one calendar month, with hard labour.

Mr. H. S. Powell has given notice of appeal on behalf of Mr. William Byass, and on Monday applied to the same magistrates for the release of Mr. Byass from custody, on his entering into recognisances (himself in £100, and two sureties of £50 each) to prosecute his appeal. The application was granted. Mr. Henry Thomas and Mr. Fred Smith, both ex-chairmen of the Pocklington Urban District Council, were sureties to the recognisances.—*Hull News.*

Veterinary Affairs in Spain.

A Veterinary Section is being arranged in connection with the International Medical Congress to be held in Madrid in April, 1903.

In Spain and the South of France vine leaves and shoots formerly burnt are now being used with considerable success as fodder for different kinds of stock.

Personal.

ARMAN-BUZZARD.—At St. Mary's Church, Islington, on Saturday, 6th July, Thomas John, son of Mr. Thomas Arman, of Woodland Farm, Cookham Dean, Berks., to Ethel Lucy, daughter of Mr. George James Buzzard, of 65 City Road, London, E.C.

ARMY VETERINARY DEPARTMENT.

From *The London Gazette* :

WAR OFFICE, PALL MALL, July 9.

Vet.-Capt. S. M. Smith resigns his commission.

C.V.S. John Crauford and William Geo. Pakeman were discharged from hospital to duty for week ended June 30.

C.V.S. Charles Waterhouse Wilson was discharged from hospital to duty for the week ended July 7.

C.V.S. H. G. Patterson, A. J. Richmond, P. M. Evershed, and M. Munro left Port Natal in the "City of Cambridge," on July 9.

CORRESPONDENCE.

THE SUPPRESSION OF SWINE FEVER.

Sir,

I was much interested in the letter *re* the Suppression of Swine Fever, by Mr. W. Woods. I am certainly of opinion that the disease is infectious and contagious, and quite agree with him that the infection is not carried very far through the atmosphere. My observations lead me to the conclusion that it is contracted in very much the same way as typhoid fever. I have known of cases where there has been an outbreak of swine fever and the disease has reappeared after five years, no doubt from some of the bacilli being rooted up, and what more likely than that those germs were deposited in the fæces—no carcases having been buried in the place. No doubt rats, dogs, etc., can spread the infection. Spread by the boots, clothing, and hands of man is, I think, not *impossible*, but *improbable*.

There is no doubt that swine fever has an acute and chronic form, and I believe that in some acute cases death can take place very rapidly and on post-mortem examination no acknowledged swine fever lesions can be found. Then, perhaps, a second death takes place, but not as rapidly as the first, and all we find is engorged lymphatic glands and gastro-enteritis. Pneumonia is very often present in cases of swine fever that I have examined, the hepatised patches being very characteristic. I have seen ecchymosis and petechiæ on the serous membrane of kidneys and heart, but I do not think that this can be depended on as conclusive evidence of swine fever.

The symptoms of swine fever during life are varied, and not always easy to diagnose. The unthrifty pig with no outward symptoms, barring a short cough and loss of flesh, is, in my opinion, the most prolific cause of the spread of swine fever. Then you have the acute case with high temperature and perhaps a skin eruption, even the pig that has a dark red and black congestion of the skin of the ears, nose, and belly has not always swine fever. The pig is an animal that is soon affected by different kinds of food and often shows it by skin eruptions of various kinds ; and I have seen a pig turn black from lung disease and also from choking. I am of opinion that when viscera are sent up to the (may I call them specialists ?) for their final verdict as to the existence or not of swine fever, that opinion ought not to be given from naked eye appearances alone but microscopical examination should also be made. There is no doubt a specific bacillus is the cause of the disease, and *if known* as easy to detect as the Bacillus of Anthrax, Tetanus or Tuberculosis. It seems a pity that the Government do not see their way to spend more money on pathological research, for I think it would pay to do so. I do not think that swine fever will be stamped out as easily as pleuro-pneumonia and foot-and-mouth disease, as the disease is of a different nature, the animals affected are usually in dirty surroundings, and the present methods of dealing with it are not what they should be. The manner swine fever is dealt with is more likely to spread it than suppress it—pigs are kept under the observation of a police sergeant until the animals are better or worse, and if the case be a chronic one I defy a police sergeant to diagnose it, the result is that pigs which ought to be destroyed at once are kept alive suffering from the disease, and are a centre of infection.

My opinion as to the best means of suppressing and ultimately stamping out swine fever is as follows. Compel owners to report to the nearest constable all cases suspected to be swine fever ; the constable to immediately report to his superintendent, and the superintendent to employ the nearest qualified V.S. to report on

the case. If the V.S. cannot give his decided opinion at once that the case is swine fever, wire to the Board. If he certifies that there is *no case*, take no more notice of the case. If the Board of Agriculture is notified they should at once order slaughter (if no pig has died) until the veterinary inspector is satisfied that swine fever exists, or does not exist; if he has his doubts let some of the viscera be sent to the Board of Agriculture to determine the existence or non-existence of the disease; and if they are also undecided, order a second inspection in a week's time.

I have no doubt that many pigs innocent of swine fever have been slaughtered in the past, and too much notice has been taken of discolouration and eruption of the skin. I have made many post-mortem examinations where there was no eruption whatever, yet the ulceration was most characteristic. I think that all the expenses connected with swine fever should be borne by the nation, as it is of national importance that the disease should be stamped out. I am of opinion that the work of slaughter of contact pigs and disinfection can be dealt with as efficiently and more cheaply by the police under the advice of the veterinary inspector; and the tracing of the origin of the outbreak can safely be left to the police. I quite agree with Mr. Woods that extra inspectors are not required for the reason described by him.

In conclusion I might say I entirely agree with the compensation system, as it certainly is a medium of affected pigs being reported, and if veterinary inspectors and police sergeants do their duty there can be no abuse of the system. I have known of an outbreak being reported, and a pig has died after the report but before the Board of Agriculture has officially recognised it, and no compensation given. This is, I think, most unfair, and a means of keeping farmers from reporting the disease.—Yours truly,

G. E. Nash.

Richmond, Yorks.

Sir,

I was much interested in reading Mr. Woods' article in last weeks' *Veterinary Record*, and as an Inspector under the Board of Agriculture can quite bear out his remarks regarding the action of the police in reporting suspicious cases which under the present *régime* is distinctly unfair to the small pig owners, many of whom rely on their pigs as a "nest egg," as it were, which will at any rate pay the rent for them, and the loss of even one pig to them is a serious matter. Only last week I had a case similar to that quoted by Mr. Woods. A cottager bought five pigs, he had them for a while and then they seemed, as he termed it, to go all wrong. One died and he reported it, the sergeant made an examination of the carcase, and though the other pigs were unwell told the owner it was not a case of swine fever and if they got any worse he was to report again. Another pig died and was reported. The sergeant came again, and a neighbour very kindly opened the pig for him, and gave his opinion the cause of death was inflammation of the liver, which satisfied the sergeant apparently that it could not be swine fever as well. However, when another pig died the owner insisted on its being reported to the Board, with the result that when I made my examination for the Board I found well marked swine fever lesions in the dead pig and also in one which was ill and slaughtered by me, and I think there is not much doubt that the same affection was the cause of the other deaths. This is only one of several cases I have met with, and I think it extremely hard lines that small pig owners should be put to dead loss in this way, whereas if the law was properly administered the loss would be considerably reduced. It makes it doubly hard also for the Board to combat the disease, as no restrictions are apparently placed on pigs in cases like this and the disease may thus be carried further afield. It is really surprising the vague ideas that pig owners have of the method of procedure adopted by the Board and its officers. The majority look upon them as an enemy to be avoided, who as soon as he hears of a pig being ill immediately swoops down and clears out all the pigs without compensation and without consulting or studying the owner. What is the result? Why many owners who have their pigs die are only too pleased to put them under the ground and say nothing, and in this way "contact pigs" become scattered all over the country. If pig owners could only be convinced that it is the wish of the Board to deal fairly with them they would, I feel sure, come forward in a body and give the Board every assistance in the way of reporting cases, and generally in giving any information which would help to eradicate a scourge which is so disastrous to their interests. But this I fear will never come to pass unless there is some very different method of procedure in the way of reporting cases than that at present in force. I agree that if a man reports a suspicious case and the pig dies without its being reported to the Board, that he should be entitled to compensation—but who is to compensate in this case? It is not likely the Board will, as it has not been reported to them. I presume it would fall on the Local Authority, and a case or two like this would make their responsible officers a little more careful. I think Mr. Woods' remarks anent the travelling inspectors will certainly appeal to members of the profession.

"Country Practitioner."

CASTRATION.

Sir,

In the very excellent paper by Mr. A. Munro on the various methods of castration in the different species of animals, read before the Lancashire Veterinary Medical Association, and reported in *The Veterinary Record* of July 13th, he mentions that if the torsion method be employed in the case of the donkey that fatal hæmorrhage is almost sure to follow.

I have in my time had to operate on a large number of these animals, and have used the torsion method as described by Mr. Munro, but I have never experienced the difficulty and complication he complains of, neither have I ever noticed that the cord of the donkey was so fragile as he has. In fact I have never had any more difficulty in operating on the donkey or mule than the horse.

My experience, however, is entirely confined to Northern India, a dry arid country and an atmosphere that for the greater part of the year contains but a small amount of moisture. My subjects also were always adults in hard working condition, without any superfluous fat, and many no doubt had been used for breeding purposes. Furthermore, the vast majority had never been in a stable in their lives and after operation were treated in the open.

There must be some reason for the difference in Mr. Munro's experience and mine. The point appears to me to be an interesting one, and perhaps some of your readers may be able to throw some light on the matter.

Joshua A. Nunn, Vet.-Lt.-Col.

War Office, London.
July 15th, 1901.

Communications, Books, and Papers received.—Messrs. F. B. O. Taylor, E. H. Pratt, A. McCarmick, J. Howard, W. C. Barling. Lt. Col. Nunn.

"*Vet. Mat. Med. and Therapeutics*," by Kenelm Winslow, B.A.S., M.D.V., M.D., Harv.